

1895.

THIRTEENTH ANNUAL REPORT

ON THE

HEALTH AND SANITARY CONDITION

OF THE

SUNDERLAND

RURAL DISTRICT

BY

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SUNDERLAND :

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ANNUAL REPORT, 1895.

Estimated Population...18,835. Acreage...7,037.

BIRTHS AND DEATHS.

During the year ending December 31st, 1895, 801 Births and 409 Deaths were registered, shewing an excess of Births over Deaths of 392. The Births represent an Annual Nativity Rate of 42·4 per 1,000, and the Deaths an Annual Mortality of 21·6 per 1,000 of the estimated population. The Birth Rate is 2·4 per 1,000 above the average for the last 10 years, and the corrected Death Rate is ·5 per 1,000 above the average for the same period.

In the Registration Sub-districts the rates were as follows :

Sub-Districts.	Popu- lation	Births.			Deaths.			Annual rate per 1,000.	
		Males	Fe- males	Total	Males	Fe- males	Total	Births	Deaths
A Bishopwearmouth South	12224	312	288	600	145	161	306	49·0	25·0
B Bishopwearmouth North	4017	79	60	139	37	32	69	34·4	17·1
C Monkwearmouth	2594	37	25	62	19	15	34	23·8	13·0
Whole District.....	18835	428	373	801	201	208	409	42·4	21·6

A. Sunderland Asylum situated in this portion of the District.

B. Home for Aged Poor (who come principally from the town of Sunderland) is in Bishopwearmouth North.

C. The only portion of the District that may be considered strictly Rural.

Of the 801 Births registered, 428 were males and 373 were females ; and of the 409 Deaths registered, 201 were males and 208 were females.

Of the 409 Deaths, 146 occurred in children under 12 months old ; 60 between 1 and 5 years of age ; 21 between 5 and 15 ; 34 between 15 and 25 ; 84 between 25 and 65 ; and 64 from 65 and upwards, of this number 35 were upwards of 70 years of age (the oldest being a man aged 93), their united ages amounting to 2566 years, or an average for each life of 76·1 years

Table I. in the appendix gives the ages at which death occurred from 1882-1895.

Table II. in the appendix gives the Births and Deaths from 1882-1895.

Corrected Death
Rate

As 15 Deaths occurred in persons belonging to other Districts, the corrected death rate is 20·8 per 1,000.

Remarks

The increase in the death rate over 1894 (2·5 per 1,000) is a very unsatisfactory feature, and is almost entirely due to the largely increased infantile mortality in the Colliery Villages of Ryhope and New Silksworth, where 114 children under 12 months of age died. This number of deaths represents an annual rate of Infantile Mortality to every 1,000 births of 190. This mortality is no doubt partly accounted for by the high Nativity rate (49·0 per 1,000), but the continued high mortality amongst infants in this District is a very unsatisfactory feature, and will be discussed further on.

The death rate from all causes in Bishopwearmouth South is 25·0 per 1,000.

Dividing the 12 years that have elapsed since 1883 into periods of 3, the following are the average rates :—

1883-85.....	25·7	per 1,000
1886-88.....	22·3	„ „
1889-91.....	21·5	„ „
1892-94.....	21·7	„ „
1895.....	25·0	„ „

The conditions in this portion of the District approximate very closely to those of a Town District, without many of the sanitary advantages to found in the latter, on account of Urban powers not being possessed.

In Bishopwearmouth North the averages are as follows :—

1883-85.....	26·8	per 1,000
1886-88.....	20·8	„ „
1889-91.....	27·1	„ „
1892-94.....	20·5	„ „
1895.....	17·1	„ „

The death rate is decreasing in this portion of the District, the Infantile Mortality to every 1,000 Births being 138.

In Monkwearmouth the following are the figures :—

1883-85.....	13·9	per 1,000
1886-88.....	7·9	„ „
1889-91.....	9·6	„ „
1892-94.....	10·1	„ „
1895.....	13·0	„ „

The death rate in this portion of the District (which is the most rural of the divisions), shews a tendency to increase, and is almost entirely due to the Infantile Mortality, which is at the rate of 204 per 1,000 Births.

In June, 1895, the Sunderland County Borough Asylum for the insane was opened at Ryhope, and amongst its occupants fourteen deaths occurred, equivalent to an Annual Mortality of 80 per 1,000 ; and to 1·1 per 1,000 of the entire population of this division. The causes of death in the Asylum are given in Table III. in the appendix.

Influence of
Ryhope Asylum

ZYMOTIC DISEASES.

During the year the following deaths were registered from Zymotic Diseases the principal Zymotic Diseases, viz :—

	1895	1894	1893
Scarlet Fever	4	5	7
Diphtheria, including			
Membranous Croup ...	1	1	0
Typhus Fever	0	0	1
Enteric Fever	15	14	12
Continued Fever	3	4	0
Whooping Cough	6	11	4
Diarrhœa	41	3	40
Measles	0	2	3
	<hr/>	<hr/>	<hr/>
	70	40	67
	<hr/>	<hr/>	<hr/>

A total of 70, equivalent to an annual mortality of 3·7 per 1,000, an increase of 1·56 over 1894.

Table IV. in the appendix shews the deaths from the principal Zymotic Diseases from 1882 to 1895.

Table V. in the appendix gives weekly chart of Infectious Diseases notified.

Enteric Fever

During the year 96 cases of Enteric Fever were reported, being at the rate of 5·09 per 1,000 of the population, as compared with 3·4 per 1,000 in 1894.

Attack Rate in different portions of District

64 of these cases occurred at Ryhope in a population of 7,406, or an attack rate of 8·64 per 1 000.—18 occurred at New Silksworth amongst a population of 4,818 or an attack rate of 3·73 per 1,000.

At South Hylton, &c., with a population of 2,852, 3 cases occurred or a rate of 1·05 per 1,000.

In Hylton with a population of 1,369 there occurred 3 cases, or a rate of 2·19 per 1,000.

At Fu'well, &c., with a population of 1,176 there were 5 cases, or an attack rate of 4·25 per 1,000.

Whole District	5·09	per 1,000
Ryhope.....	8·64	„ „
New Silksworth	3·73	„ „
South Hylton	1·05	„ „
Hylton	2·19	„ „
Fulwell.....	4·25	„ „

The attack rate per 1,000 each quarter for the whole District was as follows:—

	Cases.	Rate per 1,000
First quarter.....	16	... 84
Second quarter.....	5	... 26
Third quarter	16	... 84
Fourth quarter.....	59	... 3 13

The following figures shew the quarterly attack rate per 1,000 for each village :—

Quarterly attack
rate per 1,000 in
Villages

	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter
Ryhope	(12) 1·62	(2) ·27	(11) 1·48	(39) 5·26
New Silksworth...	(1) ·20	(1) ·20	(2) ·41	(14) 2·90
South Hylton ...	...	(1) ·35	(1) ·35	(1) ·35
Hylton and Castletown.....	...	...	(2) 1·46	(1) ·73
Fulwell and Monk- wearmouth.....	...	...	(2) 1·70	(3) 2·55

In connection, however, with the incidence of Typhoid Continued Fever at Ryhope the presence of Continued Fever must also be taken into account, and during the year 26 cases were reported, all of which occurred at Ryhope, 3 of the cases proved fatal.

The attack rate per 1,000 of the population for each quarter being as follows :—

	Cases.	Rate per 1,000.
First quarter.....	7	·93
Second quarter.....	9	1·21
Third quarter	5	·67
Fourth quarter	5	·67

These figures added to the Typhoid rate shew the attack rate for the two was as follows; as practically these cases of Continued Fever may be taken as really being Enteric Fever :—

	Cases.	Rate per 1,000.
First quarter.....	19	2·55
Second quarter.....	11	1·48
Third quarter	16	2·15
Fourth quarter.....	44	5·93

Adding the deaths from Continued Fever to those from Typhoid Fever, the following are the deaths per 1,000 for each quarter for the whole District:—

	Deaths.	Rate per 1,000.
First quarter.....	6	·31
Second quarter.....	3	·15
Third quarter	3	·15
Fourth quarter.....	6	·31
Whole Year	18	·95

Death Rate at
Ryhope

At Ryhope the death rate per 1,000 for the year was 1·48, and the quarterly death rate as follows :—

	Deaths.	Rate per 1,000.
First quarter.....	4	·54
Second quarter.....	1	·13
Third quarter	1	·13
Four quarter.....	5	·67
Whole Year	11	1·48

Thus at Ryhope not only was the attack rate per 1,000 highest, but also the death rate.

Number of
houses invaded
monthly at
Ryhope and New
Silksworth

The following table shews the number of houses invaded at Ryhope and New Silksworth during each month of the year :—

1895.	Ryhope.		New Silksworth.	
	Houses Attacked	Cases	Houses Attacked	Cases
January	8	9	1	1
February	3	3	...	...
March	2	2	...	...
April	2	2	1	1
May .....	...	...	...	...
June .....	...	...	..	...
July	1	1	...	...
August	2	2	1	1
September	6	7	1	1
October	21	26	...	...
November	7	7	5	13
December	3	3	1	1
Total	55	62	10	18

The following table shews the age at death in each sex :—

	5	10	15	25	40	60	upds
	0	5	10	15	25	40	60
Males	1	...	1	6	4	2	...
Females .....	...	.	1	1	1	1	...
Total	1	...	2	7	5	3	...
Rate per 1,000	·053	...	·106	·371	·265	·159	...

Fourteen of these deaths occurred in males and 4 in females, the heaviest mortality occurring between the ages of 15 and 25. Age at Death

As 75 cases occurred in males with 14 deaths, the percentage of deaths is 18·6, whereas amongst females out of 47 cases there were 4 deaths or 8·5 per cent.

The following table gives the number of each sex attacked per quarter :— Number of males and females attacked each quarter

	Males.	Females
First quarter..... ..	13	10
Second quarter	9	5
Third quarter	12	9
Fourth quarter.....	41	23

The following table gives the rainfall and average temperature for each month :— Meteorological Conditions

	Rainfall.	Average Temperature.
January.....	3·90	33·2
February	1·14	32·7
March	2·22	42·8
April	1·32	47·7
May	·77	53·0
June	1·39	58·4
July	6·49	58·4
August	3·43	60·2
September.....	·41	59·3
October... ..	4·69	45·5
November.....	2·04	46·1
December	2·08	39·6
Total Rainfall	29·88	

1895 was dry in the earlier part : from January 1st to June 30th only 10·74 inches fell, but July and August were wet 9·92 inches of rain falling in these months, yet there was no immediate outbreak of Fever co-incident with the rise of ground water. September was a very dry month only ·41 of an inch of rain having fallen, but there was a heavy down-pour in October which coming after the drought was marked by the occurrence of the maximum number of cases. August and September were very warm months, the temperature being above the average

Weekly numbers
of cases of
Typhoid Fever
from 1892 to 1895

Table VI. in the appendix gives chart shewing weekly number of cases of Typhoid Fever notified, and on reference to the curves it will be noticed that whereas in 1892 there was not a single case of Typhoid Fever until the first week in August, in 1893 cases were notified in January, April, and May, and in July the serious attack began. But in 1894 cases occurred in January, February, and March, and in June the serious attack began ; That is practically a month earlier each year. In 1895 with the exception of May no month was clear, but the serious attack did not commence until the third week in September.

It may be considered that the cases in the early part of 1895 were a continuance of the attack of 1894, but there can be very little doubt that the persistence of the Fever and its increasing frequency during the earlier months of the year point to progressive soil pollution, which pollution is due in great measure to the objectionable privy middens, the soil at the bottom of which has become saturated with filth. The surface of the roads in their neighbourhood is also in the same condition from the contents of the ashpits having been emptied upon them, and to a certain extent sunk in, in consequence of their not being paved, which again prevented proper cleansing. This especially applies to Ryhope, in which I have shewn the heaviest incidence of Fever occurred.

The red line in the chart shews the combined curve for the four years, 1892-1895.

Type of the Disease.

During the last four years I have been struck with the fact Type of the
Disease that the type of disease appears in many cases to have been altering, both as to symptoms, and also degree of infectivity. In a very considerable number of the cases during 1895 there was an entire absence of diarrhœa, constipation often being a marked feature, accompanied by bleeding from the nose, pain in the head and limbs and intense prostration; in every case abdominal tenderness could be elicited. The attack in many instances was marked by the usual feeling of lassitude for ten days or a fortnight, but very frequently there were no premonitory symptoms, the patient being suddenly attacked either when at work or just after leaving off. The question frequently arose as to whether the disease was Typhoid or a form of Typhus, and seven of the cases occurring at New Silksworth were puzzling, partly on account of the anomalous symptoms and the increased infectivity apparently from the breath.

The first case was undoubtedly one of ordinary Typhoid (diarrhœa and rash being typical), accompanied by grave nervous symptoms. One after another of the younger members of the family succumbed, three of whom presented symptoms much more approaching those of Typhus, the appearance of the face and eyes being suggestive, and Pneumonia developing; in two, obstinate constipation was present and in the third characteristic diarrhœa was manifest; in all there was the normal Typhoid rash.

A woman who assisted in the nursing was seized with the same symptoms, and another who washed the soiled linen was also attacked. In both of these cases there was constipation and absence of rash, accompanied by head symptoms, great prostration and stupor. Dr. Bernard of New Silksworth, who has had a very large experience of Typhoid Fever, was struck by the variation in the symptoms in these cases, and the apparently increased infectivity, and expressed the opinion which was also shared in by other medical men practising in the District, that an undoubted change had taken place in the characteristics of Typhoid Fever during the last 3 or 4 years, an opinion which co-incides with that founded on my own experience.

In this connection it will be of much interest to ascertain if medical men practising in other Colliery Villages in the County of Durham have noticed the same features. My own observations have necessarily been limited to this District, and it has been in the Colliery Villages especially that these

changes have been noted, the type in the other portions resembling the normal. In the cases briefly alluded to there was no apparent sanitary defect in the house, which was scrupulously clean, and every precaution was taken by rigid disinfection of excreta and soiled linen, to prevent the disease spreading. On examining the urine in these cases the "Diazo" reaction was present and in none of the cases as far as I could ascertain was there any "Crisis." Taking everything into consideration I came to the conclusion that the question of Typhus might be excluded.

Some of the earlier cases were so mild that the patients were only confined to bed for a day or two, and practically continued at work during their illness, and it was only in the light of subsequent attacks that the true nature of these mild cases was recognised.

Causes of the Outbreak.

Causes of the
Outbreak

The outbreak in September immediately followed the Epidemic of Diarrhoea, and in this connection it would have been of great interest had I been able to shew the curve of Diarrhoea and compare it with that of Typhoid Fever, but I have no data to go upon for making such a comparison.

The question of the milk supply was carefully enquired into, as also was that of the possibility of contaminated butter having been sold; with negative results. Vitiating drinking water as a cause was also excluded. Upon these points I shall remark at greater length when discussing the question of milk and water supply.

The principal cause of the continued prevalence of the disease is in my opinion ground pollution, and this is a danger which increases with each succeeding year, and, quite apart from the question of specific infection, probably exerts an adverse influence in the direction discussed under the heading of "Diarrhoea."

It is highly probable that germs may lie dormant in infected soil in connection with polluted ash-pits, which germs are either disturbed in the process of cleansing or become increasingly virulent under the climatic conditions that prevail during the Summer and Autumn.

To obviate this I most strongly recommend that systematic disinfection of privy middens in connection with every house in which Typhoid Fever has occurred during the year, should be carried out by a proper spray apparatus. The present

plan of removing the contents and dusting with lime, though good as far as it goes, is practically useless in preventing the recurrence of outbreaks, whereas if the plan mentioned is adopted and efficiently carried out the Sanitary Authority may reasonably expect that to a very great extent an outbreak may be prevented, but if these steps are not taken—if the climatic conditions in 1896 are the same as in 1895—an outbreak possibly worse in character than in any of the preceding years will occur.

The Sanitary defects of the privy middens and sewers, and the steps that are being taken to remedy them will be mentioned later.

The following table shews the cases per 1,000 and the deaths per cent since 1892 :—

	Cases per 1,000.	Deaths per cent.
1892.....	1·6	3·45
1893.....	5·4	12·24
1894.....	3·4	21·87
1895.....	5·09	15·60

During the year Scarlet Fever has again been very pre-Scarlet Fever
valent, though not to the same extent as in 1894. It is impossible to isolate children at their own homes, and even when precautions are taken during the early portion of the disease they are generally relaxed when the patient is convalescing though still peeling. It is becoming increasingly difficult to know how to deal effectually with this disease in Colliery Villages unless every case is removed to a hospital, as parents will not take the necessary steps to prevent infection spreading, these steps being looked upon by the bulk of the people as being merely “fads.” In fact it is no infrequent occurrence to hear the remark, “why we thought nothing of Scarlet Fever when we were young and took no precautions, but went to school directly again.” Knowledge on these subjects must necessarily spread slowly as the prejudices of older people linger long, and in my opinion such knowledge will only extend by being inculcated at school, or possibly by courses of simple lectures or addresses given to the people, that is supposing they can be got to attend.

179 cases were reported with 4 deaths, a mortality of 2·2 per cent.

Six deaths were due to Whooping Cough as compared with Whooping Cough
11 in 1894. On the incidence of this disease I have nothing to add to the remarks made in my last report.

Diphtheria and
Membranous
Croup

The District has been singularly free from Diphtheria, no case having occurred during 1895. One death was returned as being due to Membranous Croup.

Diarrhœa

Diarrhœa was very prevalent. 41 deaths occurring from this cause, or an annual mortality of 2·17 per 1,000. The following is the mortality since 1892.

1892.....	·11	per 1,000
1893.....	2·1	„ „
1894.....	·16	„ „
1895.....	2·17	„ „

It will thus be noticed that the increased mortality has taken place in alternate years, and as with some slight exceptions the Sanitary conditions have not varied to any appreciable extent, there must be some other cause at work, which I venture to think will ultimately be found to be due to meteorological conditions. In 1892, 1893 and 1894 the greatest number of cases of Diarrhœa occurred in August, but in 1895 this also happened in September, which was an exceptionally dry month.

The rainfall during the month of August in each year was as follows :—

1892.....	3·95	inches
1893.....	1·88	„
1894.....	3·28	„
1895.....	3·43	„
do.	·41	„ in September

1895, like 1893, was warmer than either 1892 or 1894, especially in part of August and September, in the latter of which the ground temperature was considerably raised, and being accompanied by a very small rainfall, conditions favourable to an outbreak of Diarrhœa would occur, and once more these figures bear out the statement “that there is an inverse ratio between the rainfall and mortality from Summer Diarrhœa.”

On referring to the curves of Typhoid Fever during the last four years, it will be noticed that the outburst has generally occurred the month following the outbreak of Diarrhœa, which certainly appears as though there was an intimate relationship between the two. Do the conditions that conduce to the one, lead up to the other directly or do tellurial emanations, which may produce Diarrhœa, exert a prejudicial effect by so reducing the physiological resistance

of those who are exposed to their influences that they succumb, when apart from these influences they might successfully resist the invasion?

If Diarrhœa is due to emanations induced by climatic conditions from polluted soil, may not the stools from patients thrown into privy-middens yield a ferment, which affecting adversely food exposed to its contaminating influence, exerts an influence upon bacilli found in the human organism that under ordinary circumstances are innocuous, causing them to manifest a malignant action, the results of which are indistinguishable from those produced by the bacilli of Typhoid Fever? or are Typhoid germs, which may be latent in polluted soil, roused into fresh activity by the influence of those of Diarrhœa, and being disturbed are distributed by ærial convection? During 1896 the writer intends to make some experiments as to the effect of varying and increasing temperatures on polluted soil.

The following table compares the death rate from the principal Zymotic Diseases and Phthisis with the permissible mortality from these preventable diseases.

Disease.	Number of Deaths	Actual Death Rate	Permis'ble Death Rate	Above Permis'ble Death Rate	Below Permis'ble Death Rate
Scarlet Fever	4	·21	·4		·19
Diphtheria and Membranous Croup	1	·05	·1		·05
Enteric Fever and Continued Fever ...	18	·95	·2	·75	
Measles			·3		·3
Whooping Cough	6	·31	·5		·19
Diarrhœa	41	2·17	·6	1·57	
Phthisis	34	1·80	1·5	·30	

From the above it will be seen that with the exception of Typhoid Fever, Diarrhœa, and Phthisis, all these diseases were below the permissible Mortality. If the Mortality from Typhoid Fever had accorded with the permissible death rate, there would have only been 4 deaths iustead of 18, and instead of 41 deaths from Diarrhœa there should only have been about 11.

Hospital Accommodation.

Hospital Accommodation

During the year the Local Government Board has given its sanction to the proposed site, and the ground has been purchased, and in the course of 1896 there is every prospect of the district possessing an adequate Hospital. This very necessary work should be proceeded with as soon as ever the weather permits of the requisite building operations being undertaken.

During the year the usual steps were taken to disinfect houses where cases of Fever occurred, and printed instructions issued in every instance.

Constitutional Diseases.

Phthisis

Phthisis was the cause of 34 deaths as compared with 26 in 1894, or an annual rate of 1·80. This shews an increase of ·41 per 1,000. 22 of these deaths occurred in the Colliery Villages of Ryhope and New Silksworth or an annual rate of 1·79 per 1,000, an increase of ·69 per 1,000 over 1894. In Ford, &c. 9 deaths occurred or a rate of 2·23 per 1,000, being a decrease of ·27 per 1,000. There were 3 deaths in the Monkwearmouth portion of the district or an annual mortality of 1·05 per 1,000.

In 1894 the death rate from this cause was ·11 below the permissible rate, but in 1895 it rose to ·30 above it.

It is very much to be regretted that there should have been an increased mortality, and it is no doubt partly due to the causes mentioned in my Report for 1894. There is not the slightest doubt that when houses are erected without a proper damp proof course, Phthisis and Rheumatism are certain to prevail, and generally speaking, new houses have been occupied long before they ought, and were frequently reeking with damp. In addition to this factor, amongst some of the older property, back to back houses, and houses that are insufficiently lighted and ventilated, also conduce to the disease.

Cancer

Cancer proved fatal in 8 cases (6 in 1894, 9 in 1893, 13 in 1892, 7 in 1891, and 8 in 1890), the rate being ·42 per 1,000, which is below the average. Cancer of the Stomach was fatal in 1 case, Cancer of the Gullet in 1, Cancer of the Pancreas in 1. Cancer of the Liver in 1, Cancer of the Uterus in 3, and one death was returned as being due to "Cancer" without any organ being specified.

6 deaths were attributed to Tabes Mesenterica, as compared with 4 in 1894. Tabes
Mesenterica

Local Diseases.

During the year 60 cases were referred to diseases of the Respiratory system, as compared with 66 in 1894, representing an annual mortality of 3.1 per 1,000, which is slightly below the average for England. 31 of these deaths occurred in children under 5 years of age, as compared with 37 in 1894. Respiratory
Diseases

Heart Disease was fatal in 20 cases (14 in 1894). These 20 cases are equivalent to an annual mortality of 1.06 per 1,000, which is under the rate for England. Diseases of
Circulatory
System

69 deaths were attributed to diseases of the Nervous System as compared with 25 in 1894, (88 in 1893). These 69 deaths represent an annual mortality of 3.6 per 1,000 which is considerably above the average for England. In this class of disease "Convulsions" caused 32 deaths, Meningitis 18 deaths (10 in 1894), Cerebral Softening 2 (1 in 1894), Hemiplegia 4, Paralysis 4 (4 in 1894), Apoplexy 6 (7 in 1894), Myelitis 1, Lateral Sclerosis 1, Epilepsy 1. Diseases of
Nervous System

43 of these deaths were in Children under 5 years of age as compared with 8 in 1894.

It is very much to be desired that a somewhat less vague term than "Convulsions" should be used, and further particulars given in the certificate of death as to the cause of the "Convulsions." Thus last year "Dentition" was returned in the majority of the cases as the primary cause of the Convulsions, whereas this year with a few exceptions no primary cause is given.

10 deaths were due to diseases of the Digestive System as compared with 34 in 1894, representing an annual mortality of .53 per 1,000. 7 of these deaths occurred in Children under 5 years of age. Diseases of the
Digestive System

Deaths due to Accidental Causes.

There were 13 deaths due to Accidental Causes as compared with 22 in 1894. These deaths represent an annual mortality of .68 per 1,000, which is about the average for England.

Compression of Brain, caused by instrumental delivery	1
Accidentally Drowned	3
Fall of stone in pit.....	2
Fall down stairs	2
Run over by engine	1
Suffocated in bed ...	1
Accidentally scalded	1
Suicide (1 drowning, 1 poisoning)	2

Infantile Mortality.

Infantile
Mortality

Of the 409 deaths registered during the year, 146 occurred in children under 1 year old, or an annual Infantile Mortality in proportion to the births of 182 per 1,000 as compared with 159 in 1894. Table VII. in the appendix gives the Infantile Mortality in proportion to every 1,000 births from 1882 to 1895.

Debility caused 17 deaths, as against 16 in 1894; Premature Birth 17 (14 in 1894); Convulsions 31, as against 17 in 1894; Atrophy 15 (6 in 1894); Marasmus 16. It is again significant that nearly all the deaths from Premature Birth, Convulsions, and Debility, and all the deaths from Atrophy, occurred at Ryhope and New Silksworth. In the Sub-divisions of the District the proportion of deaths to every 1,000 Births was as follows :—

Bishopwearmouth South	190
Bishopwearmouth North	136
Monkwearmouth.....	209

The high mortality in Monkwearmouth is due to Diarrhœa. 6 of the 13 deaths in Children under 12 months of age being due to this cause.

It would be a very good thing if every death from Atrophy, Debility, Marasmus and Convulsions was made the subject of an enquiry by the Coroner when occurring in young children so that the facts as to the proportion of children so dying that are insured might be brought to light. From an experience of many years I feel convinced that if the system of insurance was changed to an endowment policy to be paid on a child reaching a certain age (the premiums merely to be refunded should death occur previously), that a most beneficial influence would be exerted, and that Infantile Mortality would in consequence decrease.

Table VIII. gives groups of diseases and age periods.

Sanitary Report.

The District under the jurisdiction of the Sunderland Rural District Council, comprises an area of 7,037 acres. The ground is undulating and becomes hilly in the neighbourhood of Tunstall and Ford.

General
Characteristics
of the District

The River Wear flows through a portion of the District, and the small River Don for a short distance marks the boundary line at the North West corner. Three small burns flow through the Southerly portion of the District, of these streams, the rivers Wear and Don and two of the burns are very much polluted by sewage. On the East it is bounded by the sea.

Geological Formation.

The formation is that of the Magnesian Limestone, containing fossils, and in a descending order, gypsum, red, bluish and white marls, magnesian limestone and fossils, marl, slate and remains of imbedded fishes resting upon a liver-red sandstone containing coal plants, the whole resting upon the carboniferous system. The limestone contains the underground reservoirs from which the water supply of the district principally comes. In places the stone crops out to the surface but in the greater portion of the district is covered with clay

Geological
Formation

Sub-Divisions.

The District is sub-divided into three portions for registration purposes, viz :—Bishopwearmouth South containing the large and populous Colliery Villages of Ryhope and New Silksworth, together with Tunstall, Grangetown and outlying farms; Bishopwearmouth North comprising Ford and Neighbouring farms; and Monkwearmouth which contains the Villages of Fulwell, Hylton and Castletown and a large number of farms

Sub-Divisions

Changes in Sub-Divisions.

As the outcome of an enquiry held by General Carey on behalf of the Local Government Board to consider an application from the County Borough of Sunderland for the extension of the Borough boundaries by the inclusion of a portion of the Rural area, permission was given for the inclusion of some of the area asked for, consisting of the outlying portions of Bishopwearmouth North adjoining Pallion,

Changes in
Sub-Divisions

in all amounting to 320 acres, and Villa Residences and surrounding ground at Monkwearmouth comprising an acreage of 93.

Density of Population.

The average number of persons in each house throughout the District is 5·8, and the average number to each acre is 2·5. In the Sub-districts the numbers are as follows :—

	Number of persons per house.	Number of persons per acre.
Bishopwearmouth South ...	5·3	5·1
Bishopwearmouth North ...	5·9	2·5
Monkwearmonth ...	5·2	1·3

At Ryhope, New Silksworth, Grangetown, and Ford, the number of persons to an acre is very materially increased, owing to the massing of the population in these centres, and may approximately be taken as ranging from 174 to 212.

Occupations.

Occupations

The majority of the male population is engaged in working at the Collieries as miners, but in addition there are paper makers, cement makers, glass makers, employees in shipbuilding yards and foundries, brick makers, gas-men, fellmongers, milk purveyors, farmers, and agricultural labourers.

Effects of Occupation upon Health.

Effects of Occupation upon Health

As far as can be ascertained, neither coal mining nor cement making has exerted any appreciable influence upon the mortality from Phthisis, the slight increase in which is due probably to causes previously adverted to. The mines are exceedingly well ventilated, and every care is taken to prevent any prejudicial effect being exerted, and the same remarks apply to the cement manufactories. Amongst the employees in shipbuilding yards, brickfields, &c., in consequence of their constant exposure to the changing climatic conditions which prevail in this district, Rheumatism is very rife, especially of a chronic nature ; but it does not appear to have any appreciable effect in the causation of Heart Disease, the mortality from which, instead of being marked, as might have been expected from the arduous nature of the occupation of a 'large majority of the male population, is under the average rate for England.

Conditions.

Conditions

The conditions at Ryhope, New Silksworth, Ford, &c., for purposes of comparison may be regarded as being akin to those which prevail in an Urban District, the population of the two first mentioned places being larger than that of many inland towns, and in consequence of Urban powers not being possessed, the conditions of life are not so favourable. The outlying portions of the district may be considered as being Rural, but with the exception of the hamlet of Tunstall, &c., the conditions in the remaining villages are becoming more town-like every year.

Sewers.

In the report for 1894 a full account was given of the system of sewerage in the District, and during 1895 an inspection was made of certain Sewers to ascertain if they were of the size and gradients which they purported to be, with the result that it was ascertained that some of the work was of a most unsatisfactory nature, and required re-doing. In consequence of the rapid growth of Ryhope and New Silksworth, the main sewer has become inadequate, rendering a new one necessary. Mr. Humble the Surveyor has therefore prepared a plan for putting in a new sewer of a capacity sufficient for the present and future needs of this portion of the district, at an estimated outlay of about £4,000.

The scheme for the sewerage of Grangetown and neighbourhood was approved by the Local Government Board, and when carried out will improve the Sanitary condition of this portion of the District very materially, and will entirely prevent the pollution of the Burn in "Salter Fens" road by sewage. The estimated cost of the scheme is £2,500 and will provide for all the land which can be built on in the future in this Neighbourhood.

In my report for 1894 I drew attention to the totally inadequate arrangements for flushing, and during the year a flushing van and hose have been purchased, and a system of regular flushing will be carried out in future.

Water Supply.

Water Supply

In my report for 1894,—after stating that the greater portion of the district was supplied with water from the Sunderland Water Co.'s mains, which water is obtained by pumping from the underground reservoirs in the limestone:—I drew attention to the danger of surface wells, especially the one at Tunstall, and during the year an analysis was made of the water, which was reported to be very good, and suitable for drinking, and furthermore that it was evidently a “deep spring water.” As the well is only 8 feet deep and becomes quite dry in hot and drougthy weather, it is difficult to understand how the opinion was arrived at, but quite apart from the result of an analysis, I consider that the well from its proximity to a sewer and a cemetery is in constant danger of becoming seriously polluted, and should be closed. This will necessitate the provision of water for Tunstall—a direct supply for which cannot be provided on account of engineering difficulties—by water carts which could be supplied with water at Ryhope.

I alluded to the impurity of the drinking water at New Silksworth—which is pumped at the pit from the same water bearing strata as the supply of the Sunderland Water Co.—which was evidently contracted in transit through the reservoirs and pipes. These were thoroughly cleansed, and three analyses of samples of water taken at varying intervals afterwards were quite satisfactory, but during the year and especially in the Summer months there was some evidence of failure in the quantity of water in the limestone, probably caused by under draining in consequence of the new shaft being sunk by the Sunderland Water Co. at Seaton. Whether this be so or not very great difficulty is found in supplying the higher portion of New Silksworth with water, nor can this be obviated by building another reservoir, as the one in use is on the highest land. Should the Sunderland Water Co., succeed in obtaining a sufficient supply at their new pumping station at Seaton, the reservoir there will be of a sufficient height to supply New Silksworth, and the question of the supply being taken from that source rather than the pit, will have to be entertained, if not for the whole Village at any rate for that portion of it, which under existing arrangements cannot be adequately supplied. I would again urge the increasing danger of the contamination of open reservoirs, when situated near populous Towns and Villages, by wind-borne germs and dust carried from ashpit refuse, which has been placed on large “tips” in their neighbourhood for the convenience of farmers, but in addition to the danger of aerial convection, there is also that of con-

tamination of the underground reservoirs in the limestone, in consequence of rain, polluted by falling on these accumulations, finding its way through fissures. The amount of refuse disposed of in this district is augmenting every year, as not only is the increasing amount from the villages situated within it to be provided for, but it also receives the greater portion of the refuse from the neighbouring town.

Milk Supply.

The farms in the District not only supply the needs of the population situated within its boundaries, but also to a very great extent the requirments of the County Borough of Sunderland, and in connection with the serious epidemic of Typhoid Fever, which occurred there in the Autumn, the question of its conveyance by milk arose, especially in connection with Mallam's Farm at Ryhope. Nearly the whole of the milk from this farm is sent into the town, only a few customers being supplied at Grangetown. As there was a marked incidence of fever amongst the customers obtaining this milk, especially in those obtaining it from milk purveyors in the town who had received it from Mallam and retailed it—though I am by no means satisfied that the milk supplied by others to the same dealers, and which was in some instances mixed with Mallam's milk, may not also have been in fault, but quite apart from this, the fact, that at any rate in one case, the milk was received into the house of a milk dealer where Typhoid Fever prevailed, before being distributed to the public, may also have had something to do with the spread of the disease—a strong suspicion arose that the milk had become contaminated. Enquiry elicited the fact that the milk boy—who helped to milk the cows—had been suffering from Diarrhœa for three weeks, and with the exception of one or two days had attended his duties as usual. There can be very little doubt that he did suffer from a mild attack of Typhoid Fever, though the medical man whom he consulted apparently expressed no opinion either to him or his employer, and in all probability his hands were polluted, and not being washed before milking, contamination would occur.

With one exception nobody else connected with the farm suffered, though they all partook of the milk, and none of the customers supplied at Grangetown contracted the disease. However this case shews the great danger to which milk consumers are exposed unless every care is taken, and this I am sorry to say is far from being the case. The cows are almost invariably milked in the byres, the air of which is contaminated by the dung and urine and particles of straw and dust, &c., the udders are frequently—as I have observed

again and again—smeared with dung in consequence of the cows lying down in their own excrement, and the hands of at any rate the boys, who have often been engaged just before in removing the manure from the byre, are far from clean.

In my opinion cows should never be milked in byres, but in a properly constructed shed set apart for that purpose. All dung should be washed from their udders, and the hands of those engaged in milking should be scrupulously cleansed.

The question of the conveyance of Tuberculosis by milk from infected cows is one which I earnestly hope will engage the attention not only of the authorities concerned but also of the public. There can be no doubt that many apparently healthy cows are infected with Tuberculosis, and may thus spread disease far and wide. It is a significant fact that many who have suffered from Typhoid Fever afterwards succumb to Tuberculosis, no doubt induced by their being kept upon milk which has been yielded by a Tuberculous cow. It is much to be desired that the time may not be far distant when the same care will be exercised in England as in some parts of the Continent, and every cow tested with Tuberculin, and also proper arrangements made for milking, filtering, (the general public would be astonished and disgusted if they could see the results obtained by filtering milk) and securing freedom from contamination in transit by putting the milk in sealed bottles, and providing for their proper cleansing before being again used. At the present time by sterilising or boiling milk these dangers would be obviated, but medical men who advocate this are generally styled “Faddists.”

During 1896 I intend to carry out some investigations as to the micro-organisms contained in Cow dung, with the view of ascertaining whether direct infection from this source may not occur, and whether it is not possible that there may be a “cow typhoid” capable of transmisssion to human beings.

Disposal of Excrement.

Disposal of
Excrement

In my report for 1894 I referred to the fact that excrement was almost entirely disposed of in privies, which were old fashioned in type, and generally connected with large and insanitary ashpits. During the year something has been done to remedy this condition of affairs by cementing and raising the floors of the ashpits, and improving the privies. In the case of new houses the ashpits have been curtailed in size, and the privies very much improved in construction.

With the exception of a few houses there is no disposal of excrement by the water carriage system.

Removal of Refuse.

I mentioned in the report for 1894 that out of the 3,500 ashpits in this district there were nearly 1,100 for which there was no provision for cleansing, and which were consequently in a very insanitary condition, and recommended that the cleansing throughout the district should be undertaken by the Council. This has now practically been done, with the result that a very great improvement has been effected in the sanitary condition of the places affected. My remarks with regard to the danger of 'tips' for refuse still hold good, and I again repeat that I trust that the time may not be far distant when the refuse from large towns and populous centres will be disposed of by destructors.

Removal of
Refuse

The following regulations apply to the removal of house refuse, &c.,

Regulations for
the Removal of
House Refuse,
&c.

1.—The contractor shall provide a place of deposit, at least 100 yards from any building or premises used for human habitation, to the satisfaction of the inspector of nuisances.

2.—The contractor shall cause to be thoroughly cleansed, once at least every week, the whole of the contents of every privy, earth or ash closet, ashpit or ashpit and privy combined belonging to any premises comprised in the place or places the scavenging of which he has contracted for, whether such privy, &c., is accessible to his (the contractor's) cart or not.

3.—The contractor shall in all cases where it is practicable, cause the contents of every privy, earth or ash closet, ashpit, or ashpit and privy combined, belonging to any premises, to be cast directly into the cart or vehicle used for the purpose of conveying such contents to the place of deposit; and shall not cause such ashpits to be emptied between the hours of 12 at noon and 2 o'clock in the afternoon between the 30th day of March and the 30th day of September in each year.

4.—The contractor shall be responsible for any damage whatever that may be occasioned by him in the performance of his duties, unless he can shew that the damaged property was not in a proper state of repair.

Slaughter Houses.

Slaughter
Houses

No further action has been taken with regard to the regulations of the slaughter houses in the district as Urban powers are not possessed. The question of obtaining them and issuing regulations should be considered without delay.

Common Lodging Houses.

Common
Lodging Houses

Throughout the district there are no common lodging houses.

Food and Drugs Act.

Food and Drugs
Act

No action has been taken during the year under this act.

Offensive Trades.

Offensive Trades

The only trade coming under this heading is that of a Fellmonger carried on at Grangetown, and which occasionally has been a great nuisance. Steps were taken to obviate this as far as possible by adoption of suitable covers, &c., but still, from time to time, complaints have been received from those dwelling in the neighbourhood. As Urban powers are not in force it has been impracticable to draw up or enforce bye-laws, but as the licensing power is now in the hands of the District Council, it becomes a question whether it should be renewed on account of the proximity of the building to dwelling houses. A suspicion having arisen as to the disposal of the flesh from several of the animals that had died a natural death otherwise than for "Cat's meat" the place has been kept under observation. The flesh is sent to Sunderland principally and the bones to Newcastle-upon-Tyne.

Building Bye-laws.

Building
Bye-laws

The Bye-laws have been revised, but have not yet been discussed by the Council. If adopted there will then be one set in force for the whole district. The irregularities in carrying out the bye-laws to which I alluded in my report for 1894, have since the appointment of Mr. Humble as surveyor, ceased and a decided improvement has taken place in consequence of the strict supervision which is now exercised.

New Legislation.

Under the "Factory and Workshop" Act 1895, which New Legislation comes into operation on January 1st, 1896 and is to be construed as one with the Factory and Workshop Acts 1878 to 1891, the duties of the District Council are considerably extended as to the regulations of Retail Bake Houses and Laundries. The provision of fire escapes and the prevention of over-crowding, &c., in the Factories and Workshops.

Sanitary Inspectors.

During the year Mr. G. H. Humble was appointed Inspector Sanitary Inspectors of Nuisances and Surveyor and Mr. A. Tough, who acted as interim Inspector during the suspension of the previous Surveyor and Inspector, was appointed Assistant Inspector. Since their appointment the district has been systematically inspected, with the result that a very satisfactory improvement in the Sanitary condition has taken place.

Ryhope.

During the year a commencement has been made with the Ryhope work of raising and cementing the floors of the ashpits, to which allusion has been made in previous reports. When this work is completed a very considerable improvement in the Sanitary condition of these privy-middens will have been effected, but even then they can never be free from danger, as they are much too large and too near the houses, and have in their present state contributed year after year to the pollution of the soil to which I attribute, to a very great extent, the presence of Typhoid Fever. In connection with the sewer from Alice Street it was ascertained that a fifteen inch pipe discharged into a manhole, the outlet from which was by a nine inch pipe. Consequently "choking" was constantly occurring, practically causing the sewer to be an elongated cesspool, and contributing to the soil pollution and thus increasing the incidence of Typhoid Fever in that portion of the district. When the scheme for sewerage, elsewhere alluded to, is carried out this will be rectified.

The houses occupied by two sets of tenants, and which are virtually back to back buildings, with no through ventilation, still remain in the same state. This condition of affairs should be rectified by providing elsewhere for the tenant occupying the back rooms, and thus allowing the partitions to be taken down and the house again occupied by one family as originally intended.

A very great improvement has taken place since the cleansing of the ashpits has been undertaken by the Council.

New Cemetery

In consequence of the Church Yard, which covers an area of two acres, having become practically filled, the provision of a new cemetery became necessitated, and the matter was undertaken by the Parish Council, who chose a site, which in addition to easy access from Ryhope and New Silksworth was quite satisfactory from a Sanitary point of view.

New Silksworth.

New Silksworth

The sanitary condition of New Silksworth has been satisfactory. The cleansing of the ashpits, which is carried out by the Colliery Authorities, has been regularly done, but the refuse has been frequently left in the streets, causing a nuisance. This has been rectified, but if it occurs again, I recommend the Council to undertake the work.

Conveyances.

Conveyances

There has been no improvement in the sanitary condition of many of the conveyances which ply between New Silksworth, Ryhope and Sunderland. As a means of spreading infection nothing better could have been devised. Regulations should be made and enforced for their improvement.

Grangetown.

Grangetown

In my previous report I referred to the question of the Council taking over the cleansing of the ashpits, and during last year this has been carried out, with the result that a decided improvement has taken place. The unsatisfactory nature of the drainage of many of the new houses will be rectified when the scheme for sewerage, mentioned previously, is carried out.

Ford.

Ford

Still further improvement has taken place in the sanitary condition of Ford. More of the old property has been dealt with under the Second clause of the "Housing of Working Classes" Act. The cleansing of the ashpits has been satisfactorily performed by the contractor. During next year a systematic inspection of the privy-middens should be made, with the view to steps being taken to improve their sanitary condition.

Bishopwearmouth North.

In 1894 I drew attention to the most insanitary condition of this portion of the District in the following words: "The drainage is defective, the ashpits are faulty, and the roads abominable. The houses in course of erection are in some instances surrounded by a veritable swamp, have no damp-proof course, and can be anything but healthy." Bishopwearmouth North

"The Local Government Board refused to sanction the Building Bye-laws for this portion of the District unless the 'Model' bye-laws were adopted, consequently the Council had no power over new buildings."

As the result of an enquiry, held by General Carey on behalf of the Local Government Board, as to the proposed inclusion of this portion of the Rural District within the Borough of Sunderland, sanction was given, and consequently this part of Bishopwearmouth North has been absorbed by the Borough, representing land to the extent of 340·12 acres.

Hylton.

The cleansing of the ashpits has been undertaken by the Hylton Council, with the result that many of the insanitary conditions which prevailed in 1894 have been rectified. A considerable amount of old property has been dealt with in which privy accomodation was either defective or absent. There has been a distinct improvement in the condition of the Public Houses, mentioned in my report for 1894.

Considerable difficulty has been experienced in providing for the drainage of houses in Woodbine Terrace and Bank Top. A scheme was proposed whereby a small drain, provided with a settling tank, should discharge into the River Wear, but the River Wear Commissioners objected to another outlet, so that scheme had to be reconsidered, with the result that a much more complete one, which will provide for more houses, has been devised, necessitating a much longer drain, which will connect with an outfall already in existence. When this is carried out the constantly recurring nuisances consequent on the want of drainage will be obviated.

River Don.

The condition of the River Don remains practically the same. Some cleansing has been done, but as the Chester-le-Street District Council has a scheme for the proper sewerage of Usworth and Washington under consideration, there is every probability of this foul nuisance at length being abated. River Don

Castletown.

Castletown

The ironworks are still laid in and very few of the houses are occupied. The cleansing of the ashpits has been undertaken by the Council with very beneficial results.

Fulwell.

Fulwell

The nuisance from the Cesspools at Fulwell has continued during 1895, in spite of their reconstruction and the undertaking given by the owner's architect to have them periodically cleansed. There has been a distinct breach of faith, and if speedy improvement is not effected it will become a question as to whether "Closing orders" should not be applied for.

The nuisance is a most disgusting one, sewage running down the public road and emitting an abominable stench which will affect the health of those near injuriously. The three cases of Typhoid Fever which occurred in this neighbourhood may be attributed to these Cesspools.

It is most desirable that a sewer should be laid to drain this portion of the neighbourhood, as the houses erected here cannot drain into the existing sewer on account of the level of the land being below its level, and consequently cesspools had to be constructed, which cesspools were not in accordance with bye-laws, but were purposely built of loose bricks to allow of percolation and save the trouble of emptying, thus permitting the soil in their immediate neighbourhood to become polluted to an enormous extent.

During the forthcoming year this matter should be considered by the Council. A new sewer will necessitate an outlay of about £900.

Monkwearmouth

In addition to land acquired by the County Borough of Sunderland in Bishopwearmouth North, by the extension of its boundaries, 93 acres in Monkwearmouth were also included.

Farms, &c.

Farms, &c.

The sanitary condition of the farms has on the whole been fairly satisfactory. At Mallam's Farm, Ryhope, several structural alterations have been made to improve the condition. Great difficulty is however experienced in getting this place kept clean, and it requires constant supervision. At Snowdon's Farm one of the byres was overcrowded, and very insanitary, being built of wood and situated close to several pigsties.

Under the heading of Milk Supply, I have dwelt at length upon many of the dangers of contamination arising from want of cleanliness. The bye-laws, under the Milk-shop and Dairies Act, are in my opinion not sufficiently stringent with respect to lime-washing, as to keep the stalls clean necessitates, in many cases, washing at least once a month.

Table IX. gives a list of the notices served by the Surveyor and Chief Inspector, Mr. Humble, who has carried out the duties devolving upon him in a thoroughly satisfactory manner.

A. TABLE OF DEATHS DURING THE YEAR 1895, IN THE RURAL SANITARY DISTRICT OF THE SUNDERLAND UNION.

CLASSIFIED ACCORDING TO DISEASES, AGES, AND LOCALITIES.

[illegible]

B. TABLE OF POPULATION, AND BIRTHS, AND OF NEW CASES OF INFECTIOUS SICKNESS, coming to the knowledge of the Medical Officer of Health, during the year 1895, in the Rural Sanitary District of the Sunderland Union; classified according to DISEASES, AGES and LOCALITIES.

Names of Localities adopted for the purpose of these Statistics.	POPULATION AT ALL AGES.		Registered Births.	Aged under 5 or over 5.	NEW CASES OF SICKNESS IN EACH LOCALITY, COMING TO THE KNOWLEDGE OF THE MEDICAL OFFICER OF HEALTH.													NUMBER OF SUCH CASES REMOVED FROM THEIR HOMES IN THE SEVERAL LOCALITIES FOR TREATMENT IN ISOLATION HOSPITAL.												
	Census 1891	Estimated to middle of 1895			1	2	3	4	5	6	7	8	9	10	11	12	13	1	2	3	4	5	6	7	8	9	10	11	12	13
					Smallpox	Scarlatina	Diphtheria	Membranous Croup	FEVERS					Cholera	Erysipelas			Smallpox	Scarlatina	Diphtheria	Membranous Croup	FEVERS					Cholera	Erysipelas		
									Typhus	Enteric or Typhoid	Continued	Relapsing	Puerperal									Typhus	Enteric or Typhoid	Continued	Relapsing	Puerperal				
(a)	(b)	(c)	(d)	(e)																										
Bishopwearmouth South ...	11489	12224	600	Under 5... 5 upwards		15 150				1 84		26			32															
Bishopwerrmouth North ...	3622	4017	139	Under 5... 5 upwards		10	1			6																				
Monkwearmouth	2441	2594	62	Under 5... 5 upwards		4	1 1			5			1																	
TOTALS	17552	18835	801	Under 5... 5 upwards		15 164	1 2			1 95		26		1	32															

TABLE I.

The following table shows the ages at which death occurred from 1882 to 1895.

YEAR.	Under 1 year.	Between 1 and 5 years.	Between 5 and 15 years.	Between 15 and 25 years.	Between 25 and 60 years.	From 60 years and upwards.	TOTAL.
1882	113	71	20	23	33	39	229
1883	106	44	18	22	52	37	272
1884	120	33	13	52	47	44	329
1885	138	107	51	37	28	40	401
1886	99	52	33	32	41	43	300
1887	124	51	24	25	55	51	330
1888	84	54	25	22	52	64	301
1889	132	78	19	24	54	62	369
1890	119	59	20	22	65	69	354
1891	110	51	15	18	67	66	327
1892	121	44	24	18	87	37	331
1893	132	79	25	25	88	68	417
1894	112	54	22	28	81	50	347
1895	146	60	21	34	84	64	409

TABLE II.

BIRTHS AND DEATHS FROM 1882 TO 1895.

Sub-Districts	Year	Popula- tion	BIRTHS			Rate per 1,000	DEATHS			Rate per 1,000
			Male	Female	Total		Male	Female	Total	
Bishopwearmouth South ...	1882	9,988	207	217	424	42.4	90	91	181	18.1
do ...	1883	10,142	203	196	399	39.3	95	97	192	18.9
do ...	1884	10,296	235	244	479	46.5	144	89	233	22.6
do ...	1885	10,450	214	261	475	45.4	124	146	270	25.8
do ...	1886	10,614	233	243	476	44.8	126	101	227	21.3
do ...	1887	10,768	292	261	553	51.3	132	117	249	23.1
do ...	1888	10,922	264	234	498	45.3	107	109	216	22.6
do ...	1889	11,114	246	253	499	44.4	128	132	260	23.3
do ...	1890	11,299	252	250	502	44.4	133	121	254	22.4
do ...	1891	11,491	270	264	534	46.4	108	110	218	18.9
do ...	1892	12,330	266	249	515	41.7	110	133	243	19.6
do ...	1893	11,869	302	280	582	48.8	147	155	302	25.4
do ...	1894	12,080	285	249	534	44.2	135	111	246	20.3
do ...	1895	12,224	312	288	600	49.0	145	161	306	25.0
Bishopwearmouth North ...	1882	2,616	62	56	118	45.1	34	34	68	25.9
do ...	1883	2,628	61	57	118	44.9	33	16	49	18.6
do ...	1884	2,640	60	71	131	49.6	32	33	65	24.6
do ...	1885	2,652	49	55	104	39.2	51	48	99	37.3
do ...	1886	2,710	47	54	101	37.2	25	27	52	19.1
do ...	1887	2,725	50	45	95	34.8	33	29	62	22.7
do ...	1888	2,740	47	47	94	33.8	29	29	58	20.8
do ...	1889	2,759	63	60	123	44.5	37	36	73	26.4
do ...	1890	2,778	61	57	118	42.4	39	37	76	27.3
do ...	1891	2,797	69	61	130	46.4	34	44	78	27.8
do ...	1892	3,257	69	66	135	41.4	41	30	71	21.7
do ...	1893	3,851	60	59	119	30.8	44	44	88	22.7
do ...	1894	3,970	59	56	115	28.7	35	34	69	17.2
do ...	1895	4,017	79	60	139	34.4	37	32	69	17.1
Monkwearmouth	1882	2,125	47	45	92	43.2	24	26	50	23.5
do	1883	2,315	49	47	96	41.4	21	17	38	16.4
do	1884	2,424	25	37	62	25.3	14	17	31	12.8
do	1885	2,533	17	25	42	16.5	15	17	32	12.6
do	1886	2,652	19	21	40	5.0	9	12	21	7.9
do	1887	2,761	21	22	43	15.5	10	9	19	6.8
do	1888	2,870	22	10	32	10.8	16	11	27	9.1
do	1889	3,007	31	24	55	18.3	18	18	36	11.9
do	1890	3,144	45	38	83	26.3	10	14	24	7.6
do	1891	3,281	39	34	73	22.1	19	12	31	9.4
do	1892	2,349	45	31	76	32.3	9	8	17	7.3
do	1893	2,524	23	26	49	19.4	11	16	27	10.6
do	1894	2,570	27	25	52	20.2	20	12	32	12.4
do	1895	2,594	37	25	62	23.8	19	15	34	13.0
Whole District	1882	14,722	316	318	634	43.0	148	151	299	20.3
do	1883	15,085	313	300	613	40.6	149	130	279	18.9
do	1884	15,360	320	352	672	43.7	190	139	329	21.4
do	1885	15,635	280	341	621	39.7	190	211	401	26.0
do	1886	15,976	299	318	617	38.6	160	140	300	18.8
do	1887	16,254	363	328	691	42.5	175	155	330	20.3
do	1888	16,532	333	291	624	37.6	152	149	301	18.1
do	1889	16,880	340	337	677	40.0	183	186	369	21.8
do	1890	17,221	358	345	703	40.7	182	172	354	20.5
do	1891	17,569	378	359	737	41.9	161	166	327	18.6
do	1892	17,936	280	346	726	40.4	160	171	331	18.4
do	1893	18,244	385	365	750	41.1	202	215	417	22.8
do	1894	18,620	371	330	701	37.6	190	157	347	18.6
do	1895	18,835	428	373	801	42.4	201	208	409	21.6

TABLE III.

Details of cases of Death

In Sunderland County Borough Asylum, Ryhope.

Male, Æt 22 years.....Epilepsy and Pneumonia

do. 29 do.Pneumonia

do. 34 do.Epilepsy and Pneumonia

do. 39 do.Pneumonia

Female, Æt 4 months...Diarrhœa

do. 17 years...Brain Disease, Epilepsy and Pneumonia

do. 17 do. ...Brain Disease with Phthisis

do. 32 do. ...Heart Disease with Œdema of Lungs

do. 33 do. ...Brain Disease, Epilepsy and Pneumonia

do. 37 do. ...Valvular Disease of Heart

do. 50 do. ...General Paralysis of the Insane, with
Pneumonia

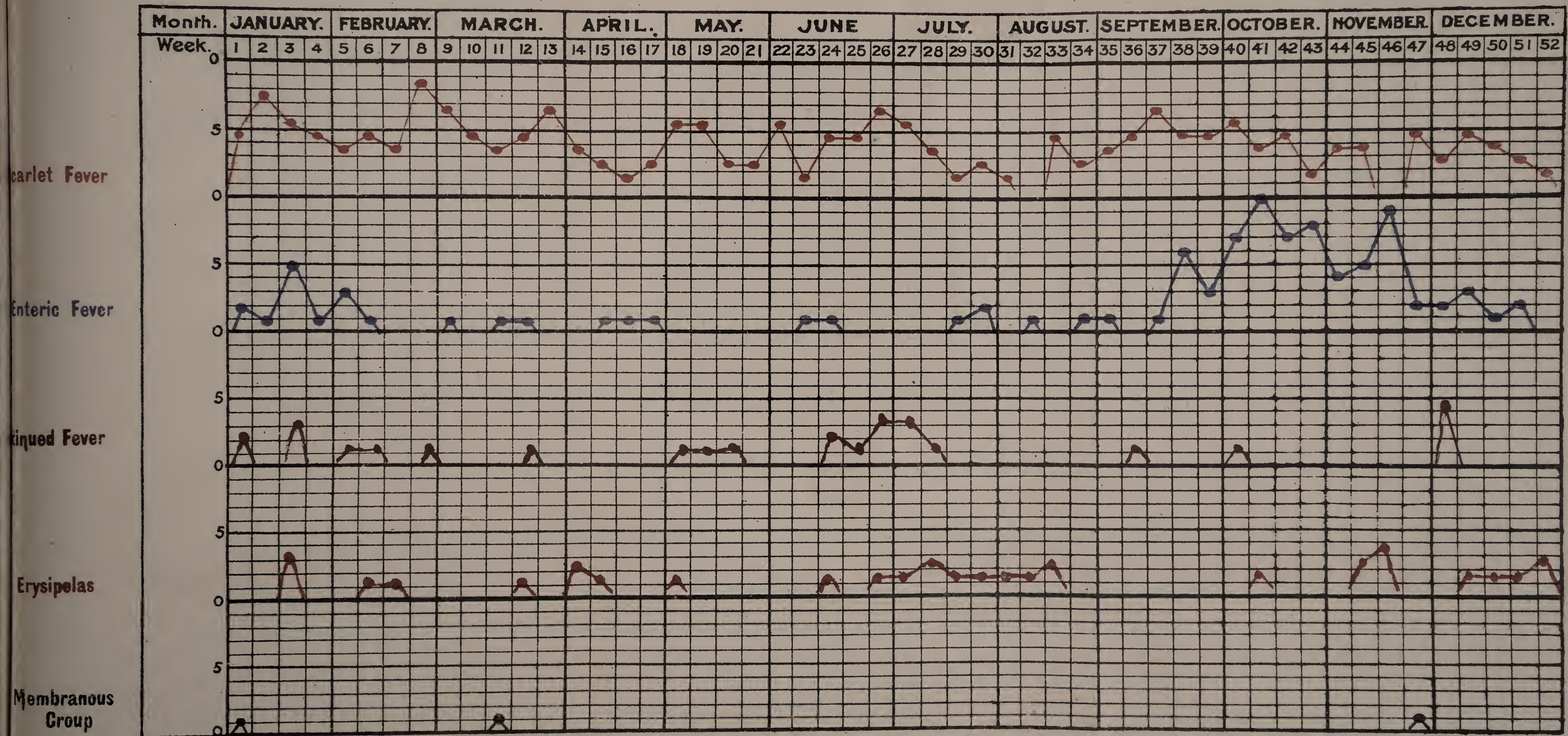
do. 52 do. ...Cerebral Congestion (Brain Disease
with Epilepsy)

do. 56 do. ...Fatty Heart

do. 80 do. ...Cerebral Apoplexy

Since the Asylum was opened, five cases of Erysipelas and one case of Enteric Fever have occurred.

TABLE V.—CHART SHEWING WEEKLY NUMBER OF INFECTIOUS DISEASES NOTIFIED IN THE RURAL SANITARY DISTRICT, 1895.



COMBINED CURVE OF TYPHOID FEVER FOR SAME PERIOD.

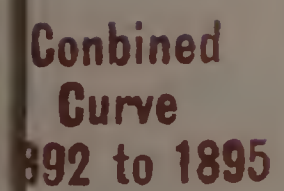
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TABLE VII.

Rates of Infantile Mortality to every 1,000 births from
1882 to 1895.

1882.....	178
1883.....	172
1884.....	178
1885.....	222
1886.....	160
1887.....	179
1888.....	134
1889.....	195
1890	169
1891.....	149
1892.....	166
1893.....	176
1894.....	159
1895.....	182

TABLE VIII.

DISEASES.	AGE PERIODS.						
	0-1	1-5	5-10	10-20	20-45	45-70	70 and upwds.
Smallpox .....	...	...	...	...	...	...	...
Measles .....	...	...	...	...	..	...	...
Scarlatina .....	...	1	2	1	...	...	...
Diphtheria (Membranous Croup).....	1	...	...	...	...	...	...
Croup .....	...	...	...	...	...	...	...
Whooping Cough.....	3	3	...	...	...	...	...
Typhus ... ..	...	...	...	...	...	...	...
Enteric Fever .....	...	1	...	5	8	1	...
Continued Fever .....	...	...	...	1	1	1	...
Erysipelas .....	...	...	...	...	...	...	...
Septicæmia .....	...	...	...	...	...	...	...
Puerperal Fever .....	...	...	...	...	1	...	...
Diseases consequent upon Parturition .....	...	...	...	...	10	..	...
Diarrhœa	28	10	...	...	1	1	1
Syphilis .....	...	...	...	...	...	...	...
Phthisis	2	2	2	10	15	3	...
Cancer .....	...	...	...	...	2	5	1
Marasmus, &c.	65	...	...	..	...	...	...
Diseases of Respiratory System	21	10	1	1	9	8	10
Diseases of Nervous System	29	17	...	1	3	16	3
Old Age .....	...	...	...	...	...	6	20
Deaths from Violence or Accident	3	1	...	2	5	2	...
Diseases of Internal Organs, Cancer excepted.....	5	...	1	1	3	3	1
Other Diseases	9	15	15	8	8	5	...
	146	60	21	30	65	51	36

COUNTY OF DURHAM.

SUMMARY of work done in the Inspector of Nuisances' Department during the year 1895, in the Sunderland Rural Sanitary District.

1. PUBLIC HEALTH ACTS.				Number of Informal Written Notices by Inspector	Number of Formal Notices by order of Authority.	Number of Nuisances abated after Notice.	General Remarks
Dwelling-houses and Schools.	Foul Conditions	.....	.....	.....	.....	.....	Got none
	Structural Defects	.....	.....	3	.....	.....
	Overcrowding	1	.....	1	.....	.....	Rectified
	Unfit for Habitation	.....	.....	.....	.....	.....
Lodging-houses		.....	.....	.....	.....	.....	"
Dairies and Milkshops		.....	.....	4	.....	.....
Cowsheds		10	.....	4	.....	.....	"
Bakehouses		.....	.....	.....	.....	.....
Slaughter-houses		.....	.....	1	.....	.....	"
Ashpits and Privies		106	.....	34	.....	.....
Deposits of Refuse and Manure		10	.....	10	.....	.....	"
Water-closets		1	.....	1	.....	.....
Defective Yard Paving		12	.....	4	.....	.....	"
House Drainage	Defective Traps	16	.....	16	.....	.....
	No Disconnection from Sewers	.....	.....	..	.....	.....
	Other faults	.....	.....	.....	.....	.....	"
		1	.....	1	.....	.....
Water Supply		12	.....	12	.....	.....	"
Pigsties		1	.....	.....	.....	.....
Animals Improperly Kept		1	.....	1	.....	.....	"
Offensive Trades		.....	.....	.....	.....	.....
Smoke Nuisances		53	.....	22	.....	.....	"
Other Nuisances		224	.....	114	.....	.....
TOTALS				224	114		

II FOODS AND DRUGS.		Number	Remarks.
Seizure of Unwholesome Food	Tunstall and Mallam's Farm, Ryhope
Convictions for exposing or selling Unwholesome Food	.....	.....
Samples of Food and Drugs taken for Analysis	.....	.....
" found Adulterated	.....	.....
" of Water taken for Analysis	Two	.....
" condemned as unfit for use	

III PRECAUTIONS Against Infectious Diseases.		Number	Remarks.
Lots of Infectious Bedding stoved or destroyed	Two Beds	Destroyed (burned)
Houses Disinfected after Infectious Disease	.....	Every house
Schools do.	do.	None	
Prosecutions for exposure of Infected persons or things	.....	.....
Convictions for do.	do.	.....

